

## **REMARKS**

Please reconsider the application in view of the following remarks. Applicant thanks the Examiner for carefully considering this application.

### **I. Disposition of Claims**

Claims 1, 4, 5, and 7 are pending in this application. Claim 6 has been cancelled by way of this reply. Claim 1 is independent. The remaining claims depend, directly or indirectly, from claim 1.

### **II. Amendments**

The specification and claim 1 have been amended to correct typographical errors. No new matter has been added.

### **III. Claim Objections**

The Examiner requested that the term "amino" be replaced with the term "amide," in line 3 of claim 1. The Applicant has amended the claim to comply with the Examiner's suggestion. Accordingly, withdrawal of the objection is respectfully requested.

### **IV. Rejection(s) under 35 U.S.C § 112**

Claims 1, 4, 5, and 7 stand rejected under 35 U.S.C. §112 as failing to comply with the written description requirement. This rejection is respectfully traversed.

As a preliminary matter, the Examiner has argued that claim 1, as amended, is not supported by Table 1 of the present specification. Specifically, the Examiner stated that "it is not clear that it [Table 1] has at least two amino groups as claimed." The Applicant respectfully notes that Formula 4 of the Specification shows a repeating structure, so that

a number of amino groups must be present. Support for this is found on page 2 of the specification under the "Summary of Invention" section, which states that the "thin film is formed by reacting (a) an amine component comprising at least one polyvinyl alcohol based amine compound having at least two primary and secondary side chain amino groups; and (b) a component comprising at least one substantially monomeric compound having at least two groups to react with the amino groups."

In order to obtain the crosslinked polymer which serves as the main component of a reverse composite osmosis membrane (page 5 of the specification), there must be more than a single attachment site, which is why the current claim, Figure 4, and the specification require the presence of at least two amino groups. The Applicant respectfully submits that one of ordinary skill would recognize that claim 1 is supported by Table 1.

In addition to this "lack of support" argument, the Examiner states that the concept of a minimum salt rejection rate is not presented and, therefore, claim 1 lacks support in the written description. Claim 1 as amended does not purport to claim that a minimum salt rejection is critical. Instead, claim 1 has been amended to claim a narrower numerical range, as compared to the original claim. In this regard, MPEP § 2163.06(III) provides the proper guidance. Specifically, this section provides:

#### MPEP § 2163.06(III) RANGE LIMITATIONS

With respect to changing numerical range limitations, the analysis must take into account which ranges one skilled in the art would consider inherently supported by the discussion in the original disclosure. In the decision in *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976), the ranges described in the original specification included a range of "25%- 60%" and specific examples of "36%" and "50%." A corresponding new claim limitation to "at least 35%" did not meet the description

requirement because the phrase "at least" had no upper limit and caused the claim to read literally on embodiments outside the "25% to 60%" range, however a limitation to "between 35% and 60%" did meet the description requirement. (Emphasis added).

Embodiments of the invention have salt rejection rates of no more than 80%. One of ordinary skill in the art would consider that a range from 0% to 80% is inherently supported by the disclosure. In fact, the Examiner has acknowledged that the specification discloses keeping the salt rejection below at certain level. The range claimed in the amended claim 1, no less than 34% and no more than 80%, is, therefore, within the range disclosed by the specification. Moreover, Table 1 discloses several examples having salt rejection rates (34%, 38% and 50%) within the claimed range.

Similarly, with respect to the permeable flux claimed, the Applicant is again limiting the claims to embodiments that are actually disclosed in the specification. Accordingly, the Applicant believes those of ordinary skill would appreciate that the disclosed embodiments fall within the scope of the original invention.

The Examiner has cited *In re Smith*, as support for the position that the Applicant is not entitled to claim a minimum salt rejection rate. However, in *Smith*, the question, was not whether a particular claim limitation was supported by the specification, but rather, whether a particular numerical limitation was supported by the parent case:

The examiner's and board's refusal to accord appellant the benefit of the filing date of his 1947 application was premised on their finding that the invention now claimed was not "disclosed" in, or "supported" by, the 1947 disclosure. Translated in terms of a first paragraph, §112, requirement, it is evident that the Patent Office holding was that there was no description of the invention now claimed in the earlier specification.

*Smith*, 173 U.S.P.Q. 679, 683 (CCPA).

The question addressed by the court in *Smith*, therefore, is significantly different from the present case. As the claim limitation appears in Table 1, the claimed numerical range is clearly within the range inherently disclosed in the specification, and thus, the Applicant believes that the written description rejection is untenable and cannot properly be maintained. Accordingly, withdrawal of the §112 rejection is respectfully requested.


## V. Concluding Remarks

The above amendments and remarks are believed to require no further prior art search. Also, Applicant believes that this reply is responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Because the amendments and remarks simplify the issues for allowance or appeal, and do not constitute new matter, entry and consideration thereof is respectfully requested.

Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 04558.035002).

Respectfully submitted,

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